

FIG. 1
 (Prior Art)

100

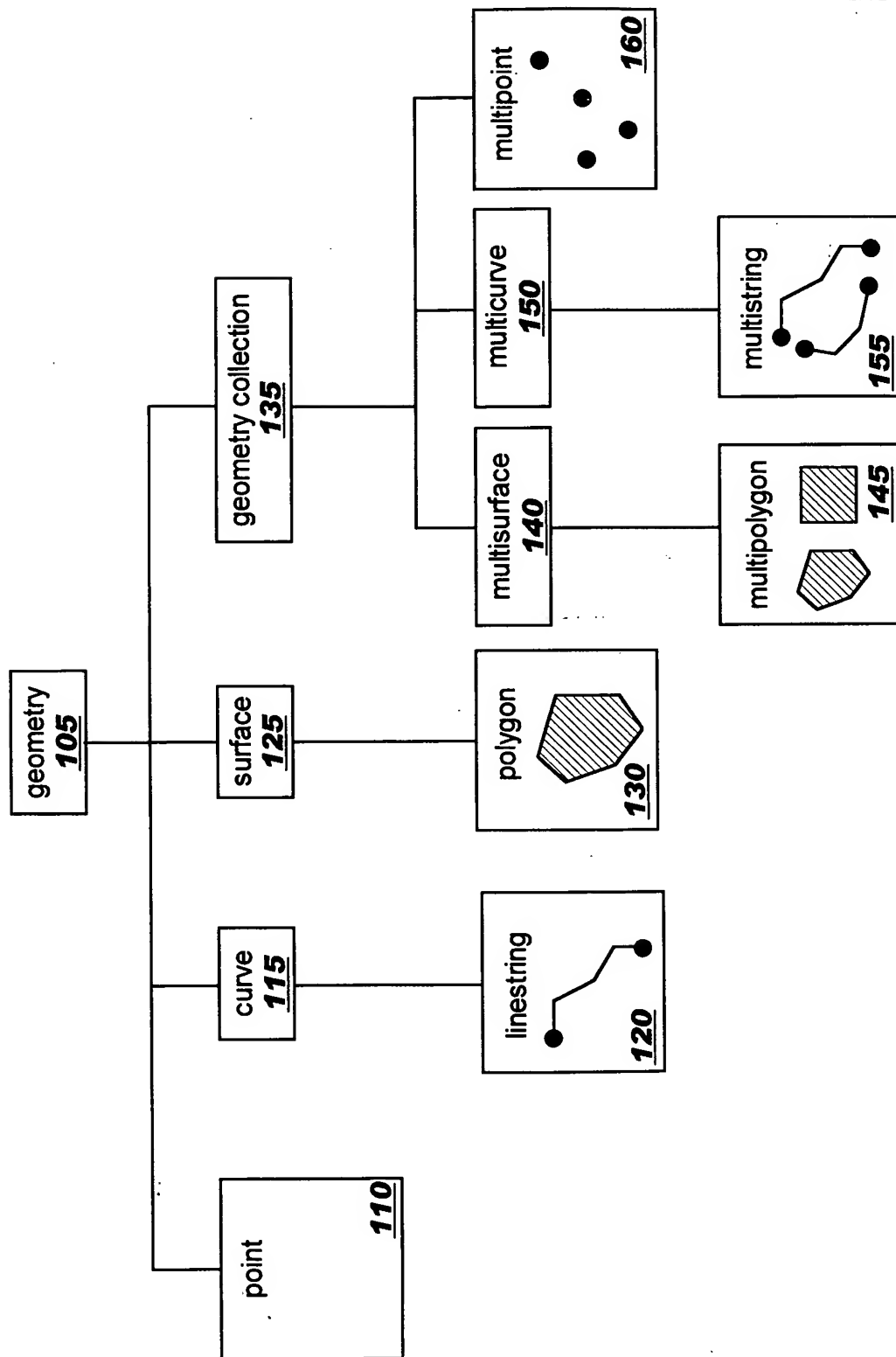


FIG. 2

200

Intersection Table **210**

inter_id	street_id	intersect_id (stored as text string)	intersect_pt (multiple pts)
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City Table **220**

city_id	state_id	name	envelope	polygon
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State Table **230**

state_id	name	envelope	polygon
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Address Table **240**

addr_id	address	street_id	city_id	state_id	zip_id	PT<x,y>
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Street Table **250**

street_id	start_Pt	name	envelope	linestring	PointZM
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Points of Interest **270**

rid	type	name	phone
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Zip code Table **260**

zip_id	city_id	zipcode	envelope	polygon
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FIG. 3

	300
310	123 High House Rd, Apex, NC 27502
320	123 Hudson Rd, Raleigh, NC 28971
330	123 Davis Dr, Cary, NC 27676

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FIG. 4

Major Geometry Tables

State Table

400

state_id	abbr_name	name	envelope	polygon
1	NC	North Carolina	(b,b)	(p,p,p,p)
2	SC	South Carolina	(b,b)	(p,p,p,p)
3	VA	Virginia	(b,b)	(p,p,p,p)

City Table

430

city_id	state_id	name	envelope	polygon
1	1	Raleigh	(b,b)	(p,p,p)
2	1	Cary	(b,b)	(p,p,p)
3	1	Apex	(b,b)	(p,p,p)
4	1	RTP	(b,b)	(p,p,p)
5	2	Charleston	(b,b)	(p,p,p)

Zip code Table

460

zip_id	city_id	state_id	zipcode	envelope	polygon
1	3	1	27502	(b,b)	(p,p,p)
2	1	1	27707	(b,b)	(p,p,p)
3	1	1	27560	(b,b)	(p,p,p)
4	4	1	27709	(b,b)	(p,p,p)

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FIG. 5

Minor Geometry Tables

Address Table

500

addr_id	address	street_id	city	state	zipcode	PT<x,y>
1	123 High House Rd	123	Apex	NC	27502	<35.9,78.2>
2	123 Hudson Rd	456	Raleigh	NC	28971	<34.567,78.3>
3	123 Davis Dr	789	Cary	NC	27676	<45.789,78.9

Street Table

530

street_id	start_Pt	name	envelope	linestring	PointZM
123	<35.8,67.9>	High House Rd	(bounding box)	constructed when address inserted into table	<1,3 1,100> x=state_id y=city_id z=zip_id M=density point
456	<35.67,67.85>	Hudson Rd	b.b		<1,1,5,1>
789	<35.77,67.99>	Davis Dr	b.b		<1,2,6,1>

Intersection Table

560

inter_id	street_id	intersect_id (stored as text string)	intersect_pt (multiple pts)
1	123	456	<35.66,78.92>
2	456	123,789	<35.66,78.92> <36.88,78.92>
3	789	456	<36.88,78.92>

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FIG. 6

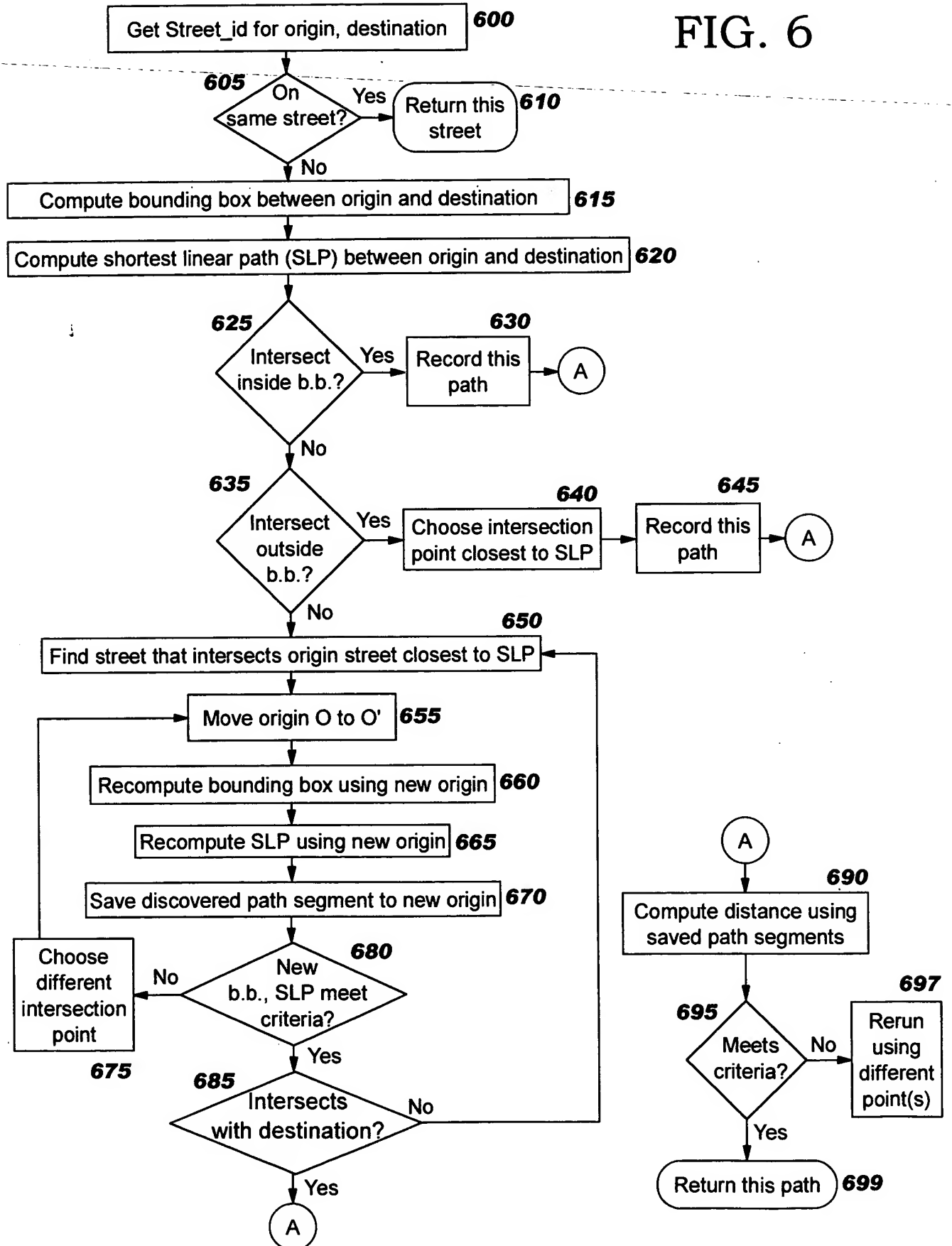


FIG. 7A

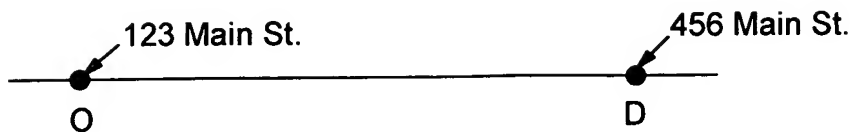


FIG. 7B



FIG. 7C

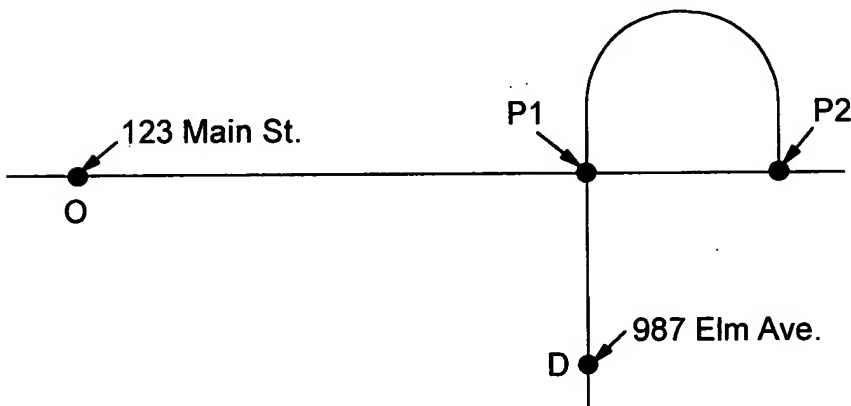


FIG. 7D

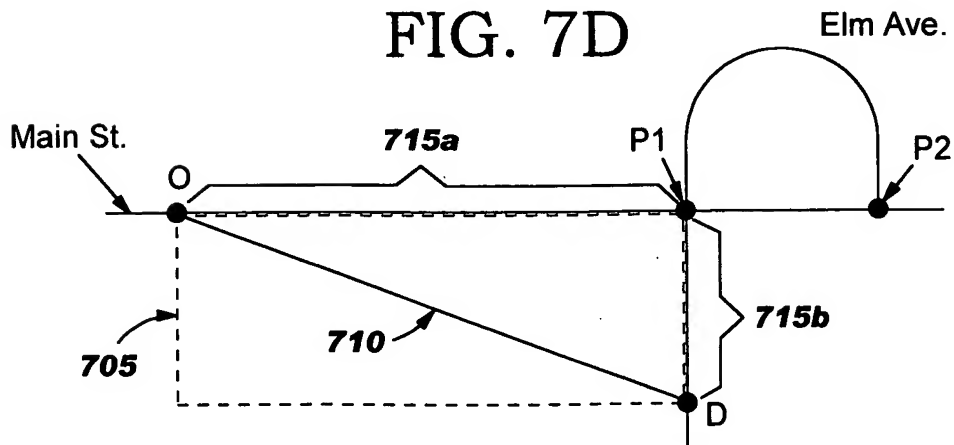


FIG. 7E

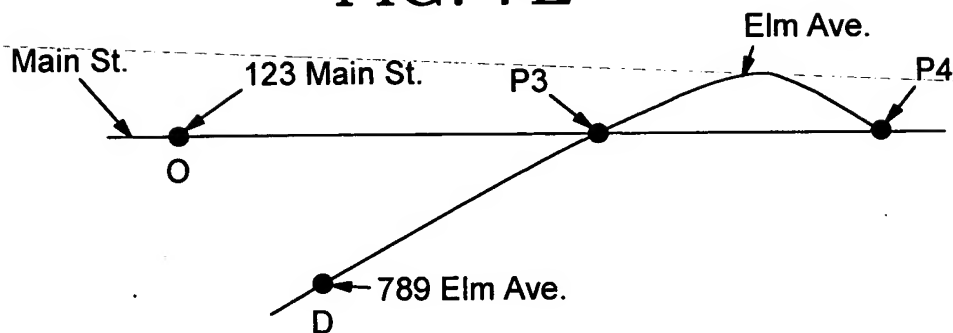


FIG. 7F

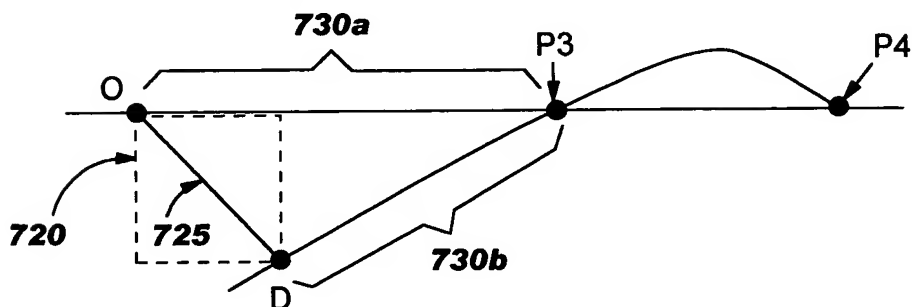


FIG. 7G

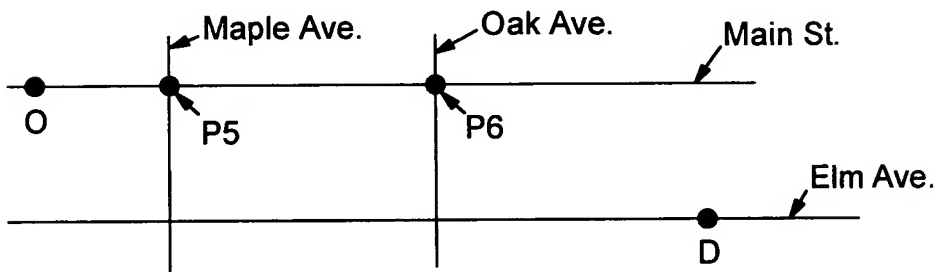
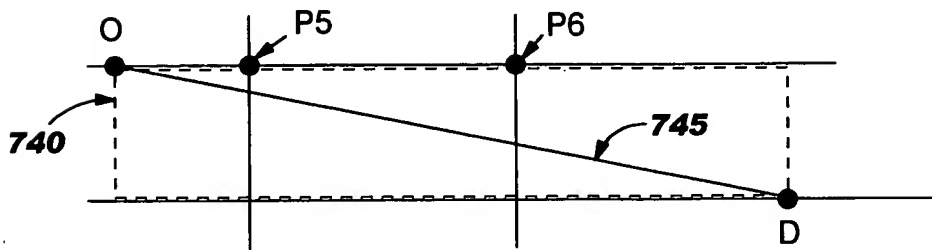


FIG. 7H



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FIG. 7I

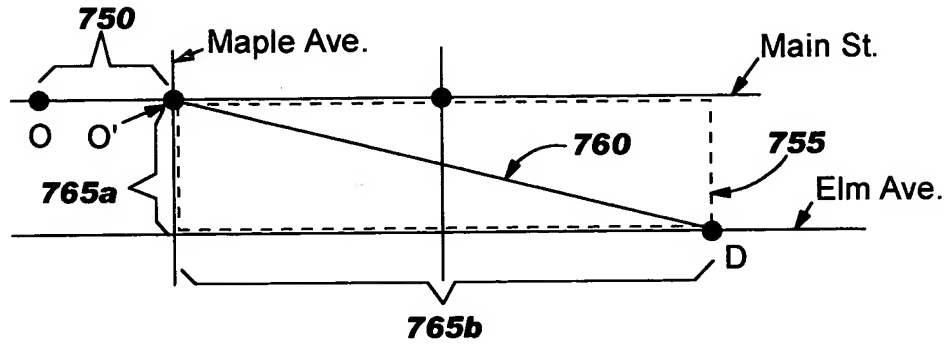
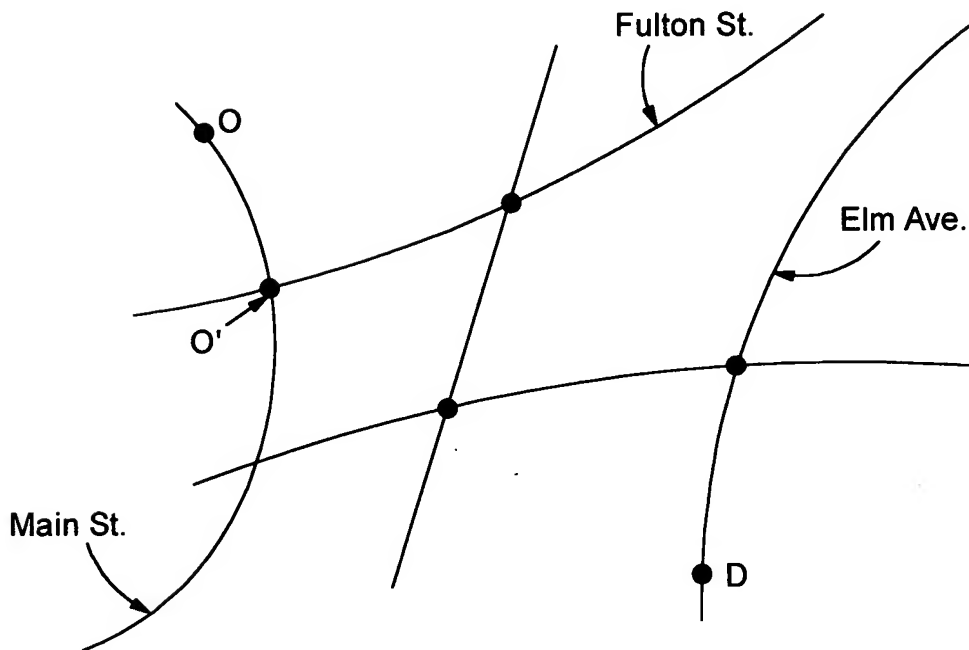


FIG. 7J



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FIG. 8

